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ABSTRACT

Presented at the 1974 Community/Junior College Conference, the papers in this monograph examine issues related to institutional, program, staff, and student evaluation. After K. Owen McCullough's and Earl M. Ramer's prefatory remarks, Laura Bornholdt presents a typology of negative staff attitudes toward program and institutional evaluations; discusses the need to achieve a consensus among staff that evaluations are necessary; and outlines four principles for conducting effective evaluations. After an outline of conference objectives by James D. McComas, Ralph W. Tyler describes a framework for educational needs assessment based on an investigation of community and individual needs, the translation of these needs into intructional tasks for the college, and the selection of those tasks best performed by the college. John A. Centra reviews the strengths and weaknesses of a variety of techniques used in faculty, administrator, and institutional evaluations, including the assessment of learning outcomes at the end of a course, student and peer evaluations of faculty, faculty evaluations of administrators, and assessment of institutional climate. James Popham discusses the development of norm-referenced testing in the 20th century and examines the shortcomings of standardized, norm-referenced achievement tests for measuring instructional outcomes. Finally, Ohmer Milton reviews major issues addressed at the Conference. (JP)

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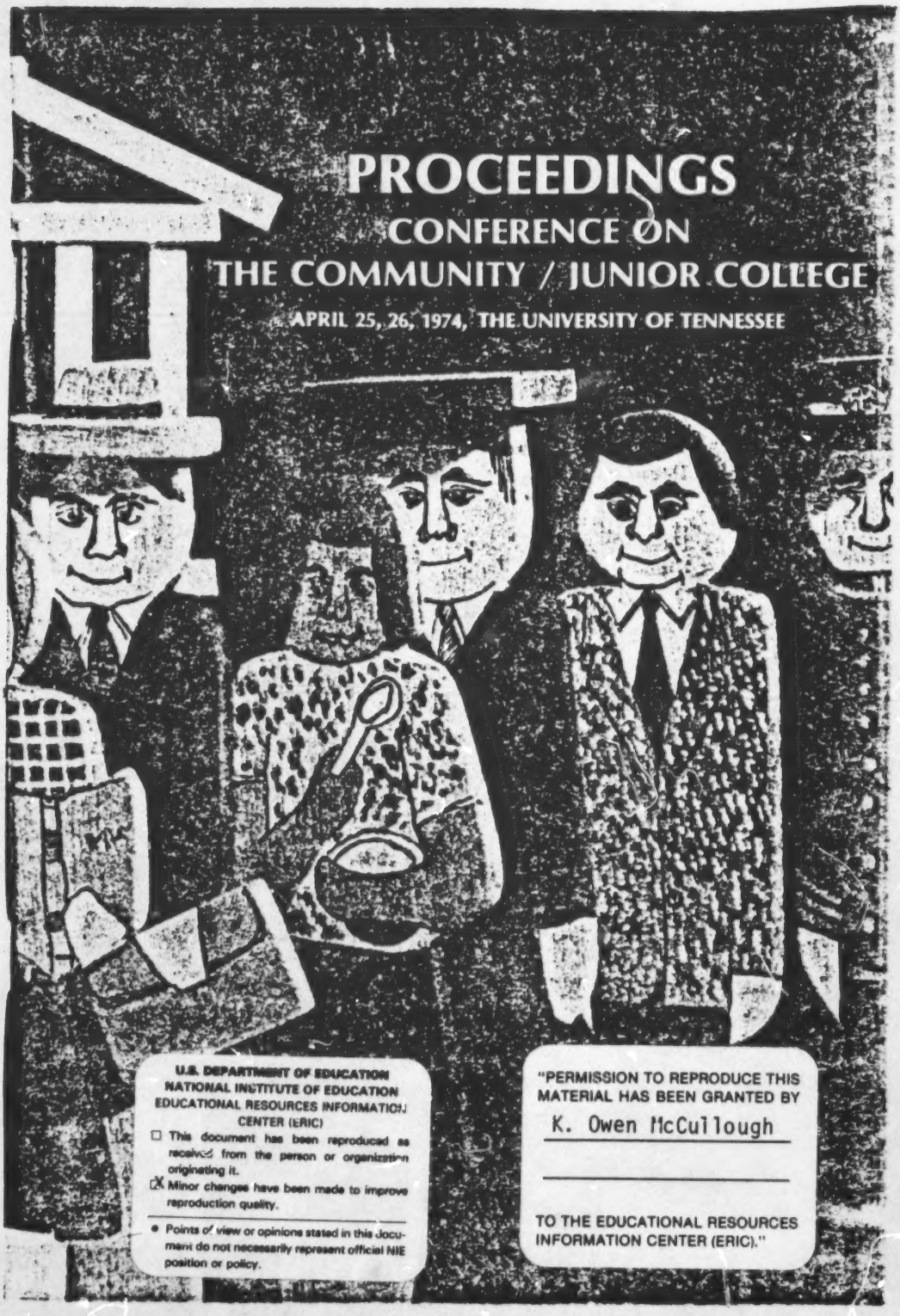

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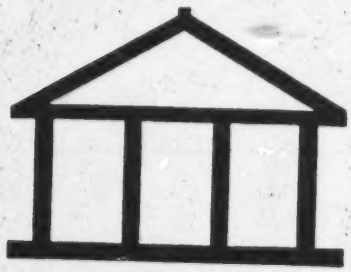
PROCEEDINGS
CONFERENCE ON
THE COMMUNITY/JUNIOR COLLEGE

APRIL 25, 26, 1974, THE UNIVERSITY OF TENNESSEE



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Preface

K. OWEN McCULLOUGH
Editor and Planning Committee member
University of Tennessee, Knoxville
August, 1974

There is no more exciting force in American higher education today than the community colleges; nor is there a newer force. Still growing at the rate of about three to four each month across our land, the community colleges are bringing new and diverse learning opportunities to all our citizens, quality learning experiences at low cost, sometimes free!

The community colleges represent a dream almost fulfilled: the dream of an equalitarian society in which the key to equality—knowledge—is accessible to all; a society in which learning, learning for whatever purpose, is actively pursued and enjoyed by most citizens throughout their adult lives. The community colleges, then, are truly the people's colleges, as diverse as their clientele, responsive to the unique needs of their service area, and, therefore, programmatically different from one another, though functionally and philosophically similar.

Because of their diversity, it is difficult and even undesirable to design statewide community college conferences with a very narrow cognitive focus. It is also difficult, yet *most* desirable to choose a conference topic which will be relevant to all participants. For the past three annual conferences, the planning committee members successfully chose such relevant topics. This year's planning committee was no exception. Program Assessment, the topic chosen, is a task faced by all community colleges, a necessary task, enjoyed by some, abhorred by many, but performed by all and at all levels of sophistication. For these reasons: the inequality of enthusiasm to cope with assessment, the inequality of knowledge about assessment, as well as the absolute necessity for it (especially in these years of economic austerity), the topic of Program Assessment was thought to be "extremely timely."

For the nearly three hundred participants at the 1974 conference, program assessment was, indeed, timely, as well as informative. For those who could not attend and who are, instead, reading these conference proceedings, we hope that you will also find the topic beneficial.

1974 Community/Junior College Conference Report

EARL M. RAMER
For the Planning Committee, 1973-74

The 1974 Community/Junior College Conference convened on the campus of the Volunteer State Community College, Gallatin, Tennessee. This was the fourth such conference in successive years, and involved the collaborative effort of the Tennessee Community Colleges and the College of Education of the University of Tennessee, Knoxville.

The themes of the preceding three conferences have been concerned with mission and role, inter-institutional cooperation, and the expanding campus. This year's theme was Assessment, and provided conference participants with excellent presentations by national leaders — Dr. Laura Bornholdt, Dr. John Centra, Dr. James Popham, and Dr. Ralph Tyler. These presentations are included in the *Proceedings* and will be of much interest regionally and nationally, as well as in our own state.

The *Proceedings* are being sent to all conference participants. Orders for other copies ($2.00) may be sent to the Bureau of Educational Research and Service, University of Tennessee, Knoxville 37916.

Whatever success the Conference achieved resulted from the assistance of many persons and groups. The Planning Committee acknowledges the valuable facilities and services of the Volunteer State Community College, the Presidents Council of the State Community Colleges, and the various participating units from the University of Tennessee, Knoxville.

Special appreciation should be expressed to Dean James D. McComas and Associate Dean William H. Coffield of the College of Education for their support of the conference series from the very beginning. This support has included not only budgetary allocations, but active involvement in conference planning.

Thanks should be expressed also to the Bureau of Educational Re-

search and Service for seeing the *Proceedings* through the printing process. Mrs. Barbara Arwood of the Bureau has given generously of her time and talent, including art and format decisions that have provided evidence of continuity in purpose among the four conferences.

The Planning Committee desires also to recognize Dr. Kenneth McCullough, a newcomer this year to its membership. Dr. McCullough, assumed the chairmanship of the committee and conference directorship responsibilities within a short time after his arrival at the University in September, 1973. He has edited the current *Proceedings*, and has begun work with community college presidents and others in the shaping of plans for the 1975 Conference.

A word of praise must be provided the state community college staffs and faculties for their many and diverse roles in conference planning and execution. Their attendance, first of all, has helped to assure a constituency well versed in community college problems and prospects, and thus sensitive and receptive to conference activities. Second, and of equal importance, has been the leadership roles assumed by these community college representatives. In the 1974 Conference and previous ones, they have chaired and served as recorders for discussion groups, have presented conference reports, and have otherwise engaged in activities closely identified with conference success.

To other persons who appeared before the Conference in general session we are grateful: President Cuyler A. Dunbar, Jr. of Roane State Community College; Dr. C.C. Humphreys, Chancellor, Tennessee University and Community College System; President Sam Ingram, Motlow State Community College; Dr. Ohmer Milton, University of Tennessee; President Harold Pryor, Columbia State Community College; President Hal Ramer, Volunteer State Community College; and Chancellor Jack E. Reese, University of Tennessee, Knoxville.

Through all conferences in the series, participation from both two- and four-year campuses, public and private, has been good.

To all of these persons and groups the Planning Committee extends its recognition and praise.

Assessment: Concepts and Issues

LAURA BORNHOLDT

Presiding at the first general session was Dr. Sam Ingram, President of Motlow State Community College, Tullahoma. Dr. Hal R. Ramer, President of Volunteer State Community College, Gallatin, welcomed participants. Dr. Andrew P. Torrence, President of Tennessee State University, introduced Dr. Bornholdt.—Ed. Note.

I want to begin with a confession of serious addiction to the comic strip, *Peanuts*. It's longstanding and runs so deep that I'm not in the least disturbed by having Charlie Brown advertise Ford cars or tell me which kind of dog food to buy for my dog. Nor do I worry if Schroeder tells me there is a new and great recording of Beethoven that I can get at my neighborhood record shop. I'm not ashamed of needing my daily message at the hands of Charles Shultz in his daily shop, and I always put up particular meaningful strips on my refrigerator in the kitchen where I can keep seeing them or just above my desk at the office. And it was there as I looked up the other day that I saw one that seems to be particularly meaningful to this group, at least for me addressing this group. It's only six weeks old, so some of you may remember it. Lucy is in the psychiatrist booth, and the sign says, "The doctor is in, 5¢ please." At Lucy's feet is Snoopy, sitting on a fairly soft cushion. Lucy philosophizes, "It used to be that a person could live isolated from the world's problems." Next, with her feet up on the booth, she says: "Then it got to be that we all knew everything that was going on." And then, she comments, "The problem now is that we know everything about everything *except* what's going on." Finally, good old Lucy puts her feet squarely on the ground and says: "Snoopy, that's why you feel nervous. Five cents, please." But it's Snoopy's little private balloon for his thoughts that carries the day's message: "I'm short a nickle, I'm still nervous, and I *still* don't know what's going on." I feel a distinct kinship with Snoopy.

I am nervous to be keynoting a conference for the likes of this group on assessments and evaluation, certain that I don't know everything about everything. But I am full of respect for the planners of this particular conference, for in hitting on the topic "evaluation," which they did some six months ago, they hit on a very hot topic, a topic that commands the attention of most educators, a great many legislators,

almost all of the philanthropists I know, and a goodly number of government bureaucrats. I don't know if you are aware, for example, that HEW is now setting aside 15% of each grant for evaluation purposes. (One thing that is certain to result, I think, is a great new army of evaluators.) I'm also respectful of the planners of this conference for another reason: namely, that if anybody announces the topic of evaluation, the not very hidden agenda is that of change, change for institutions and change for the people who make up the institutions, and I think that is bold because change is a double-edged word and most of us like to praise it more than we enjoy being a part of it. We are bombarded every day with evidence of change, but I find that we—and I certainly include myself—don't rush in to create change opportunities, either the kinds that are perceptible or the kinds that are imperceptible. So I thought that what I would like to spend my time doing this afternoon is to suggest a climate that produces effective evaluation and then conclude with a few principles which you can tear apart in your discussion session or which the subsequent speakers can tear apart for your amusement.

I'll start with a metaphor: when a truck driver wants to be sure that he is on his way to where it is he wants to go, he consults his road map. Well, in an educational institution, say a community college, who, how, what, when determines the same thing? Certainly a community college must be more ingenious in testing where it is going than the truck driver because, in the first place, a lot of people may be driving the truck. Many more may have ideas about where it should be going, and, in all likelihood, the road map was chosen even before the cornerstone was laid, whenever that was.

Then, there are other handicaps in assessing or evaluating an institution, particularly an educational institution. One of the complications for all educational assessment is that many of the most searching and most important questions related to learning, the heart of the educational enterprise, are still being studied. We don't really know how we learn; we don't know how we learn in different ways; we don't know the difference between the ways we learn cognitively, affectively, physically. We don't know how we build theories around our own actions, where we pick up values, or how we learn to express them. Hence, when we evaluate the instruction that is offered by institutions, our teaching and our learning, we must begin by admitting the great unknowns. And after we've done that, we have another agonizing list of questions to run through: Are the best assessments self-studies or are they analyses prepared by "neutral" outsiders? What is the appropriate unit, topic, or subject for the focus of evaluation? Is it a single community college, for example, or should it be a statewide study of community colleges? Should it be a statewide study of all post-secondary institutions? Or should it be a test of the product, a cross-

section of students, say, studied by age groups? Should it be a study of the faculty or of a cross-section of the faculty? Or should there be a comparison of the achievements of students out of college, and then, what should the time interval be, five years, ten years, twenty years?

Assessment, in sum, takes a lot of different forms. You ask a lot of questions before you begin to decide that you need evaluation and want one. And certainly, involving oneself in an evaluation presupposes that there is something that some one wants to find out, and it assumes that there is somewhere a common agreement on the goals or the objectives on whatever the unit or the topic might be. This means that assessment also carries great risks, and it's one of the reasons that assessments and evaluations can be very threatening. The risk is that at the end of the evaluation somebody will have to cry, "But the emperor has no clothes!" The equivalent translated to the truck driver is, "We never knew where we were going in the first place."

It's an established fact that community colleges were the success story of American higher education in the 1960's. We also know that in the 1970's the outlook of legislators and citizens has come to be dominated by a new theme of accountability. The question, therefore, for the community college in the 70's it seems to me, rests with that familiar rhetoric of the unique mission of a community college—the Open Door, the People's College. Has the community college succeeded in generating a unique curriculum that really differentiates what goes on within its walls as contrasted with four-year colleges? Do the faculty of a community college agree on the different mission they have as compared with, say, the state college next door or the university 150 miles away? Or do the faculty essentially try to replicate whatever undergraduate experience they had wherever they come from? Is the Open Door of the community college really open? Is the community college about to be asked to move over to let the open university become the people's college of the 1970's? One thing we know about institutions, even such recently developed institutions as community colleges, is that they begin as dreams in the minds of a very small number of people, but they often articulate ways and means better than they do philosophy and process. The result is that the dreams are frequently acted out by human beings who have a cantankerous way of moving in and out of the institutions and of letting the institution, itself, grow just like "Topsy."

Both faculty and administration sometimes have to be pulled in and pulled along on assessment projects, and one can outline a typology of the attitudes which develop in opposition to evaluations. I'll offer mine to you for what it is worth.

Familiar to us all, certainly, is our colleague, the Great Debater. His or her basic approach is that you can't ever really prove *anything* in education. Educational research breeds competing hypotheses, and

they are interesting, but they never lead to any conclusions. General research in learning theory is interesting but primitive. One can't wait for new monographs to come out with answers to the ultimate questions when in fact one has to make a decision tomorrow on whether to keep up the work-study program or abandon it. You can't separate, they say, the contributions that are made to human development by the home and by the school, and thus you can't accuse the school of failure. Neither can you credit it with all the success. As the Great Debater likes to point out, psychoanalysts are paid to spend hours drawing out of their patients whether the great influences of their lives were school, home, or the Boy Scouts. There is no point in generalizing, they say, individual unknowns by synthesizing them in an attempt to describe what is happening to a whole group of people in a school. Further, the Great Debater says, you can never isolate *the* factor that makes for difference in education. And, finally, you cannot even know when to evaluate the success of formal schooling. We have slow-bloomers, we have late-bloomers, we have never-bloomers, but who knows what is the proper time to decide what to do with what and where to try to influence whom? The consolation for the Great Debater is simply that in education you plant seeds, and you water them, and you nuture them, and life goes on. The Great Debater is particularly happy with the conflicting evidence which is being amassed currently by the professionals on the subject of integration and segregation in schools and what integration/segregation does to the whole learning process. This, then, is basic Type One of the opponents of evaluation.

Type Two in my typology is the paranoid, and here I have subdivisions for the activist and the pacifist paranoid. The basic credo of the paranoid is that things-are-not-what-they-seem and that "they"—I don't have to identify "they" for you—are not doing what "they" seem to be doing. If the issue is evaluation, the paranoids are sure that the cards are stacked for some specific purpose and that there is a hidden reason why the evaluation is going on. Paranoids flourish in both the faculty and the administration, although the overt symbols may vary. Administrators have to be much more circumspect and frequently have to seem to be doing something while they are actually doing nothing. The overt complaints which circulate among paranoid friends are—"They" are wasting our money again; that money should be put in faculty salaries or administrative salaries or whatnot. "They" are out to increase the teaching load (or increase the class size). "They" are out again to get the such-and-such department, etc."

At the other extreme from the paranoids is the anti-establishmentarian. His or her basic credo is that this-place-is-so-bad, any-change-can't-fail-to-be-of-help. Therefore, he or she will favor anything that can come out of the evaluation provided it will lead to

change fast. He's about as much help to the evaluator, I can assure you, as the Great Debater or the paranoids. By the very irrationality of his or her behavior, he or she scares off people who might be neutral.

Finally, there is the aloof type who takes Mark Hopkins as his model and whose general approach to evaluation and assessment projects is, "Just let me alone to teach my students." Or, if he or she is less ethical and less innocent, the statement may be, "Just let me alone."

Obviously, all these types are bad news for evaluators. Management experts tell us that you can move most people the way you want to move them with a consistent application of carrots and sticks, but they also say that nothing compares with the advantage of working with people who honestly believe in self-renewal for themselves and for their common enterprise. These are people who would welcome assessment, don't feel threatened by it, are prepared to consider change and prepared to admit that the status quo may not represent perfection.

This leads me to venture into a first principle of evaluation: The broader the consensus that assessment is needed and is timely, the more hope there is for implementation of the findings resulting from the evaluation. In educational institutions, we all know that assessments can be launched by legislators or legislative agencies. Such sponsorship is fairly certain to result in a strong "we-they" climate and is certain to perpetuate the practice of viewing the student as almost superfluous to the subject. A second possibility is assessments which are launched by institutional administrations, or by faculty, or by a joint enterprise of faculty, administration, and students. Some of the most successful assessments, believe it or not, are launched by divisions, and even by departments.

The ideal assessment or the ideal evaluation would find all parties agreed on its timeliness and on its potential significance. There would be no "we-they" division between the people who are conducting it and the people who are undergoing it or between the authorizing group and the group under study. Assessment would be approached as an open-ended learning situation in which everybody would profit. You may well say, "This is dreamy, a great theory for the textbooks, but has it ever happened? Is it every likely to happen?" The answer is "Yes." There are at least two formal movements towards new kinds of evaluation which are useful, not for total institutions, but for projects within institutions.

One formal mode of evaluation which is developing along these lines is Decision Theoretics. It is guided by decision theoretics principles. This approach doesn't fit all situations, but is superb for single projects. It is a mode of evaluation which assures multiple opinions from all persons concerned with a given project. It introduces as much factual data as the situation will bear and, above

all, there is continual and open feedback with an assurance of immediate modification of the original guidelines for the project. This is a mode of great appeal, for it offers us a sense of what's going on when it's going on. For example, suppose you have launched a new program for developing paramedics at your institution. You plan to include some radical innovations, and you know the opposition of the local medical community is likely to be incurred. You would welcome a tap-in at intervals, and you would be grateful to know at all points what's going on. With the Decision Theoretics Model, you are certain that everything is monitored even before students entered the project. And you can have a very clear notion of the student's expectations. Researchers tap in on the academic faculty and the clinical faculty. They talk to the patients who are being treated in the clinical routines. They talk to the nurses, to the "outside" staff doctors, and to the administrators. In time, what actually develops is that there is never a very sharp break between planning for the project and evaluation itself. Nobody is threatened.

A second new method of evaluation is one which is associated at present largely with persons of the MIT staff. They choose to call this method Illuminative Evaluation. Like advocates of Decision Theoretics, they break with classical research by emphasizing subjective data. Their focus is on the people involved in educational procedures and the refinement and qualification of values. (Both of these ways of evaluating, by the way, rely heavily on determining the common values of a given enterprise.)

MIT's approach and the Decision Theoretics approach are, however, really best for relatively small project operations. What do you do for a total institution? What's left? What kind of assessments brings in all points of view and assures a cross section of values? What evaluation rescues you when conflicts of value are illuminated? Techniques appropriate for such complex assessments have been developed and while not yet perfect, they can be helpful. The Educational Testing Service, among others, now offers two institutional assessment techniques—one, the Institutional Functions Inventory, and the other, the Institutional Goals Inventory. Like the other approaches just described, these assessments make it possible to include subjective data without producing mere impressionistic and soft results, which no administrator, legislator or other concerned person would want to deal with.

All these approaches to evaluation are forceful reminders that every educational institution has many constituencies who need to talk with one another far more often than they apparently do, and who need to approach one another concerning central institutional values and missions. Actually, I find myself in 1974 very optimistic about what's happening in evaluation circles, as a potential for assessment

and evaluation in individual institutional situations. I am optimistic, largely because of the change in attitude toward educational research. And I think, now that attitudes on the part of most American academics are changing, we will continue to make progress in the decade ahead. We've moved a long way from the classical notion that any and all educational research consisted of petty, dull pre-post tests which result in insignificant answers to unimportant questions.

The key to successful evaluation and assessment is, in the first place, having a large group who are in favor of it. And I think the basis of successful assessment lies in knowing some of the recent literature and some of what it demonstrates. The Great Debaters and foot-draggers whom I mentioned earlier are really subject to conversion. They desperately need to expose themselves to some reading and some talk with informed persons. From this will follow a possible release from frustration and some very real personal development. Some institutions are trying to rough it. They are not satisfied to wait until faculty members re-educate themselves. And some interesting things are going on; some interesting models are coming out. In my judgment, the best institutional programs are now concentrating on retraining and developing people. Wellesley College in Massachusetts, for example, has had for several years an Office for Institutional Research for which they were spending precious dollars. The situation seemed ideal. There was no break between "we" and "they." Everybody wanted the office. The administration wanted it. The faculty wanted it. The students wanted it. The trustees wanted it. And those responsible for the institutional research came up with what they thought were very interesting data. They wanted somebody to talk to them about their data; they wanted some action to result from that data. They found that they got flurries of congratulations on their reports, and they took these in hand. But, increasingly, they became convinced nobody was reading the reports! The solution, Wellesley decided, was to generate a faculty seminar in order to build appreciation for the research findings! The hope is to use the seminars to generate an imaginative consideration of what the implications of the research findings may be for curriculum and for faculty alike. Fortunately, Wellesley can afford it. But the point is that they consciously decided that if institutional research was to have any usefulness for them, they had to educate their faculty to its importance.

Larger, less well-heeled institutions are concentrating on different kinds of strategies for disseminating evaluation and assessment. I can think of a public university in a state adjacent to Tennessee where some key faculty members were shocked when a psychologist pointed up the significance of the ACT findings concerning the changes in the freshmen being admitted to that university over a ten-year period. The shock of recognition that their students really weren't what they used

to be was followed by an actual examination of why they weren't the same and what ought to be done about it.

I can think of a state system farther away which is relying on student evaluations to serve as the prod for institutional assessment or evaluation. I talked with a gentleman from Florida State University a couple of weeks ago who has eight people—I'm not sure what his total staff is—whose sole assignment is to collect from students a critique for every course taken at the institution every term. This is by a legislative mandate, by order of the state legislature in Florida. It just so happens that the rest of his staff is housed in the Office of Curricular Design. I would think that there is probably a very clear message there if faculty wait to have it delivered. But to my mind, that kind of a system seems as unreliable as what most institutions now have for the evaluation of good teaching—having faculty judge faculty on the basis of the conversation they have in the department coffee room. I think that what Florida will succeed in doing, perhaps the best they will succeed in doing, is to push forward the problem of student development as the real concern for undergraduate teaching. This is a long way around.

Finally, many institutions are establishing centers for improving instruction, centers where all manner of resources and personnel are collected, and where evaluation is one of the most common tools of the game. The role for centers like this is to keep the conversation going and to bring home the single message that critical thinking about what goes on in universities is as important as critical thinking related to the content of the discrete departments, divisions, and schools.

I honestly believe it's an exciting time to be involved with evaluation in higher education. I think we've passed through some very negative studies where the Great Debaters could demonstrate that the content actually learned by students is influenced very little by the size of the class or even by very distinctive methods of teaching. We've survived the findings that students are as cantankerous as they can be, and will frequently rank as excellent teachers the most authoritarian of our colleagues. I think one reason we can survive these findings is that we now have evidence, basic research, that faculty and different styles of teaching do influence students in more significant ways than in the mere accumulation of factual information. There is evidence to demonstrate that faculty influence students in the development of their values. Faculty do help students develop competence, autonomy, purpose and integrity. Surely, that's the kind of development education is all about. We know, too, that faculty are highly influential in helping students reach occupational decisions and establish their own educational ambitions. And we are, I think, on the verge of some very interesting experimentation of matching student

and instructor with modes of instruction and styles of learning. We're learning more every year about student development but also about faculty development. Putting this knowledge and insight together in real flesh and blood institutions is the challenge of the seventies.

I promised you I would sum up with a few basic principles which you can then tear apart. Here they are. I think, as a general rule, that evaluations are significant only if they are really wanted and hence will be accepted and incorporated by the people most directly affected. (I said "as a general rule" because there can always be the evaluation that sweeps everybody out, in which case you don't have to worry about what's left or who accepts it.) I firmly believe that the findings of simple and of complex evaluations can be deflected or buried, if there isn't this kind of openness and acceptance. And, I believe that the more you know of the general research literature about higher education of the last ten years, the more open you are to an assessment and evaluation of your own institution because you see it neither as a phony or as a threat.

A second principle is that there is no single formula for evaluation to fit all needs, or all units, or all topics. It is perfectly possible to be involved in a two-week evaluation or assessment at the same time one is involved in an evaluation that may last four years or five years. They are a part of life.

A third general principle is that assessment really requires a posture of openness and willingness to apply critical thinking to very sensitive areas. Closely allied to this principle is a fourth general principle: the secret of success of an evaluation never lies in the amassing of data, but in generating the right questions before the evaluation gets under way.

The final basic principle that I find true is that it's never possible to evaluate without examining and re-examining one's values and the institutional values surrounding them. These are not issues that can be shoved under a handy rug. Sooner or later they come out for exposure.

Conference Expectations

JAMES D. McCOMAS, *Dean*
College of Education
University of Tennessee
Knoxville, Tennessee

Dr. Harold Pryor, President, Columbia State Community College, Columbia, presided at the second general session and introduced Dean McComas.—Ed. Note.

We are pleased to be participants in this fourth community college conference. Not only has the conference survived, but it has prospered over the years. We are gratified to be partners with you in this particular effort. I might just add as a personal postscript that I am also pleased to have with us our good friend, Dr. Ralph Tyler, who is known nationally and internationally.

Dr. Earl Ramer was the prime mover of the first conference that we had some four years ago. While he's been rather quiet during the planning activities of this conference, he and Dr. Ken McCullough are owed a special vote of appreciation.

We have an outstanding list of people on the Planning Committee. This list includes: President D.F. Adkisson, Jerry Bellon, President James Clark, Donald Hampton, Ken McCullough, Ohmer Milton, Earl Ramer, Eugene Schoch, and Dewey Stollar. We are deeply indebted to each member of the Planning Committee.

The community college program within the state of Tennessee has grown, continues to grow and has much more potential to be realized. We have been privileged to work very closely with you, and you have allowed us to participate in a variety of activities for which we are grateful. Chancellor Humphreys, this year a number of regents institutions participated with us in Title I Continuing Education venture and with your help, and Dr. Ingram's and a number of others—to be exact, five community colleges have been active participants in this program. Mr. Paul Martin, who is with Title I of the Higher Education Act has given strong support to this program. We have a number of colleagues from our own campus, from Liberal Arts, and the College of Communications, the Office of Admissions, System, and many others whom it would be impossible to recognize tonight. We appreciate their support as well as that of our own colleagues from the College of Education.

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The figures that the THEC has provided indicate that the total enrollment in public community colleges in Tennessee is 10,261, with a combined faculty of 531 and a budgetary expenditure of $18,074,918. We can see that the State of Tennessee has a significant investment in terms of students, faculty, and resources.

As we look ahead for the remainder of this conference, a number of expectations could be set. We are in a period when the public views elementary and secondary schools, community colleges, and universities as not being "favorite sons or daughters" anymore. Public schools, community colleges, and universities are not the public's top priority list. For the first time in our memory we find this to be true, and we find it to be a very painful reality. Very few governors this last year mentioned higher education in their annual messages to their various assemblies and legislative bodies. The federal government has failed to include elementary, secondary, and higher education in its lists of priorities. So we find a stabilized enrollment and an interpretation on the part of the public that there is a stabilized condition with respect to needed resources. This is a very critical period in which we need to develop new models for translating institutional needs into legislative requests. It is going to cause us to be much more creative and have much better information than we have had in the past.

The conference will focus on some concerns with respect to evaluation. Really, we don't have a choice. Even though decisions are still being made on the basis of political considerations, more and more institutions are being asked to justify themselves and their actions. It is rather clear that if we do not develop a system of evaluation then someone else will. There are many people with a system or a model trying to transport that model into systems where it may or may not be appropriate. In making an adaptation for education, we are going to need to be able to make intelligent choices dealing with the available models and the available systems. B. Othaniel Smith said a few years ago, "These days if you don't have a model or a system you ain't nobody, even if somebody loves you!" I suspect that he may be right. So we had better know what the language is, know what the rationale is, and be able to respond. This conference is designed to help us to develop a greater knowledge of and mutual help and respect for total programs in higher education. The conference should help us to develop a greater knowledge which will result in an appreciation of and a respect for multiple systems of higher education. The conference is based on the idea of not "what we ought to be doing to others, but what we ought to be doing to ourselves." I am looking forward to the remainder of the conference. I want to thank you for allowing us to participate and to share in the conference with you.

Assessing Needs and Determining Goals

RALPH W. TYLER

Dr. C.C. Humphreys, Chancellor of the State University and Community College System of Tennessee, made a few remarks and introduced Dr. Tyler at the second general session.—Ed. Note.

Thank you for the generous introduction. I hope I can live up to it. I was reminded that I have been told by some great teachers of salesmanship that whenever a product is good, you don't have to spend time in explaining and selling it. I was also reminded of Mark Twain's experiences when he spent $25 having his ancestors looked up, but it cost $50 to keep the information quiet.

It is not my intention under this title, "Assessing Needs and Determining Goals," to try to tell you what you should do. You know your own situation much better than I. However, because I have been working in a great many schools and colleges, I have come to understand something of the rationale for assessing needs and determining goals and some of the procedures that have been followed. I hope they will be of interest to you.

My presentation deals with educational needs and goals, not with building needs or financial needs or staff needs—all of which are important in developing institutions like your own. I want to talk about educational needs because many colleges are seeking to plan their educational programs on the basis of assessed needs. This relatively new emphasis is a result of a shift within higher education.

The first universities in Europe were established for persons who were able to afford them. Most of the students were supported by the church or by well-to-do parents or other patrons. Scholars taught what they had learned and welcomed students who were interested in what they were teaching. Higher education was not considered of great practical value because it was carried on by people who were called "gentlemen." They belonged to the leisure class and believed that education which had any vocational implications was not good higher education. Later, higher education was the foundation for professional careers, but until recently these career opportunities were rather limited. In 1900, approximately the time that I was born, only three percent of the U.S. labor force was engaged in occupations that could be called professional, and the number of people graduating from colleges was only about 1½ percent of the population. When I

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was in college during the First World War, only three percent of the population graduated from college, and ten percent graduated from high school. As recently as 1920, education beyond the high school was viewed primarily as a kind of luxury for people who could afford it or as a major background for professional careers of which law, medicine, teaching, and the ministry were most notable.

Now, however, largely because we have found how important educated people are in the economy and polity of the nation, higher education is viewed as a means for developing very precious human resources. The wealth of a nation is no longer measured primarily in terms of its land, its machinery, its factories, but a major component is the educational level of its citizenry. A modern industrial nation relies heavily upon knowledge, skills, and new technologies for increasing production and making it possible to deal with many of the problems that were once thought insoluble such as disease, mental illnesses, prolonged depressions, and the like. Now education beyond the high school is considered a chief means of developing the human resources of a nation. In these terms, the potential contribution of institutions like yours is very great; far greater than most people appreciate. Given sufficient funds, these institutions can develop capabilities for raising markedly the level of human resources in this state, through providing educated people and all that they contribute. But you do not have unlimited funds. Those that are furnished you need to be used with as great efficiency as possible. Not only are funds meager, compared with the potential, but college personnel who can help in the effective development of human resources are in short supply. These facts make careful planning particularly significant so as to prevent neglected needs and wasted resources.

There are two main kinds of assessment that are important in planning educational programs; namely, assessing the community and assessing individuals. What are the needs in your community for educated people? What are the needs of individuals who are potential students in the college?

It seems simple to recommend an investigation of community needs and a consumer survey of potential students. It is good practical advice to say that we ought to focus the efforts of our colleges on those things to be taught that will help educate persons both to meet the needs of our communities and to meet their own personal needs to realize their potential. It is easier to say this than it is to obtain the necessary data about these needs. Furthermore, there are certain background conditions that also have to be considered for any college that is carrying on this kind of planning. There are, for example, the legal conditions under which the college operates. There are, in some states, limitations upon the ages in which a person may enroll. There are limitations in some states about whether they have to

be full-time students or part-time. There are also philosophic considerations. For example, some institutions believe that regardless of any legal restrictions their most important function is to offer students the first two years of a four-year college program, and they will devote much of their energy to students who expect to complete four years of college. Other institutions have different philosophic positions. The establishment of the conditions that help to define what needs you are going to consider and how these resources are to be allocated is an important task and usually should precede the process of assessing particular community and individual needs.

In assessing community needs and translating them into educational goals, we must remember that community needs are also individual opportunities. That is, if the community needs more people in the field of nursing, this a need that can be met by post-high school education. It is also an opportunity for young people who want to go into nursing. Needs and opportunities are not nessarily antithetical. The needs of the community may be opportunities for the individual. It is not, therefore, that on the one hand the college must do something for the community and on the other hand it must do something for the individual. In a considerable percentage of the cases, one is simply the concomitant of the other.

What are the things to be analyzed in order to identify those needs? In my own work in colleges like yours, I have examined four areas. One is the occupational area. What are the occupational openings for young people in your community: occupations that require more than high school education? In many cases, this kind of information can be obtained from the census, employment services, chambers of commerce, agricultural extension offices, and local advisory committees. In some cases, the information is not available, and several community colleges have created projects for students to participate in surveys to find out facts about employment and the rates of turnover. The survey should not be limited to the fields of production and distribution, but should identify opportunities in service and entrepreneurial occupations that require more than high school education.

A second is the area of socio-civic needs. We often complain about the relatively low level of political knowledge, about corruption in local politics, and about the lack of an informed citizenry. There is a variety of socio-civic activities that distinguishes a so-called educated community from another. One of the things that E.L. Thorndike, the great psychologist at Teachers College, Columbia, did in his later years was to make an index of communities in terms of their quality of living, including their low rate of juvenile delinquency, freedom from corruption in politics, the concern shown for other people, the voluntary contributions to human welfare, and the opportunities available for citizen participation in the community. It has long been

known that one way of helping improve the quality of a community is to help educate the people both with regard to constructive goals and also with ways of working toward goals, for example, understanding how political action takes place. The students for such courses need not be limited to young people. Some of the most effective programs in community colleges I've known have been organized for and often by the League of Women Voters or other civic groups. Since there is a great demand for educated people to be responsible leaders in the social, civic, and political life of their community, it is clearly an area for examination of needs that would suggest important things to be taught in your community.

A third area for assessing needs is the family. One of the most pervasive responsibilities of the family is the maintenance of the health of its members. Assessing needs in the field of health may indicate such needs as a better understanding of nutrition and of the regimen required for effective health. Child rearing is another major family responsibility. Family counseling, perhaps, and marriage counseling may also be important. The need for education in obtaining and using consumer goods and services can be examined. The situation in your community in the general area of family living should identify some very important educational needs. Local health departments and home demonstration agents may help in obtaining information.

A fourth area for assessment concerns the cultural and recreational opportunities of your communities. Educated people can contribute a good deal to the quality of cultural and recreational life. Needs can be identified in the whole range from music and art to outdoor activities, including a variety of sports. The recreational activities available to children and youth as well as to adults should be reviewed to identify needs, particularly needs for educated people to give leadership to cultural and recreational life. In this area, as with the other three, the community college can make significant contributions.

The analysis of these four areas will reveal a considerable number of community needs but these cannot be directly interpreted as educational tasks. They have to be translated into things that persons can learn through education at the college level. In the areas of occupations this translation is relatively straightforward. Those occupations that are professional, technical, or managerial usually require persons with education or training beyond high school. The development of these occupational curricula furnishes the guidance for students in their preparation for these callings, as well as outlining the educational programs for the college.

In the socio-civic area, needs that are identified in terms such as: reducing juvenile delinquency; increasing citizen participation in local government; eliminating corruption in politics; developing con-

structive community goals; and gaining support for essential community services, require judgments as to things that persons can learn to help meet these needs, such as: understanding the causes and conditions of delinquency; knowledge of current efforts to combat delinquency; understanding of principles and procedures involved in political action; skills in investigating community problems; and skills in group leadership.

In the area of the family, needs are usually stated in such terms as: inadequate nutrition; irregular daily health regimen; poor practices in child rearing; family conflicts; uneconomic consumer buying; and wasteful uses of consumer products. What should be taught to help meet needs of this sort? The educational effort at the college level is to help people learn how to solve their own problems. They can learn the criteria for good nutrition and the principles to guide in selecting food and preparing it. They can develop a fairly comprehensive understanding of the way the human body functions, and the controls exercised through a daily regimen.

As further examples, they can learn some of the basic attitudes, principles, and skills required for constructive care and development of children. They can acquire knowledge of dependable sources of information about consumer products and how to test the quality of certain goods and services. They can learn how to calculate the several costs of goods and services.

In the cultural and recreational area, needs also usually require translation to identify what the college can teach in order to broaden interests, enhance satisfaction and deepen appreciation. In this area, knowledge about a wide range of cultural and recreational activities can be learned, as well as skills in some of them. Standards to guide taste and the selection of personal activities can be acquired. These are only a few illustrations of many possible translations of needs into learning tasks.

When the analysis of the needs of your community has been translated into things that persons can learn at the college level, the result is a list of educational tasks for the college that could contribute significantly to community development. As suggested earlier, this list also implies opportunities for individuals to learn things that will enable them to contribute to the community's needs. But, a separate examination of individual needs is necessary to insure that some of them are not overlooked in the community study.

The analysis of student needs was one of the features of The Cooperative Study in General Education that was conducted in the period, 1939-45. This project developed a number of instruments for assessing individual needs related to science, social sciences, humanities, and personal-social relations. The volumes reporting the study were published by the American Council on Education in 1945. The

students responded to questionnaires and inventories of problems, activities, interests, goals of life, beliefs, and knowledge. The information obtained from these instruments indicated both assets and difficulties, as well as goals and interests. It suggested deficiencies which education might help the individual to overcome as well as aspirations that education might help him to attain.

In studying the needs of individuals in a local community, the persons on whom to focus are present and potential students. Unfortunately, not all individuals whose needs could be met in whole or in part by community colleges will take advantage of such opportunities. Many will not enroll even when appropriate courses are available. Hence, when planning programs, consider the needs of those who are likely to use educational opportunities. One may also set as a future goal that of trying to reach people who are not now willing to enroll and take advantage of helpful courses.

There are six facets of individual needs that may be profitably studied. One includes the interests, aspirations, life goals, and plans the individual has clearly or vaguely formulated in each area of his life, namely, occupational, socio-civic, family, and cultural-recreational. A second facet deals with the activities, experiences, tasks and jobs that he has had, and his reaction to them. A third consists of the problems and difficulties he encounters or senses in each area of his life. A fourth comprises the skills and abilities he has developed in each area. These include intellectual skills as well as physical and social skills. A fifth facet deals with his cognitive maps of phenomena in each area, that is, with the concepts he uses, the knowledge he has gained and the beliefs he holds. The sixth includes the satisfactions and disappointments he feels in each area of life.

The foregoing list is a comprehensive one, useful as a map of the possible needs, but not as a series of data, all of which should be collected in an assessment of needs. The College Profile constructed by John Holland for the American College Testing Program, is one practical instrument for assessing some of the significant interests and activities of students. Whatever instruments are used should be designed in terms of kinds of individual needs that are relevant to the possible educational program of the college.

The data from a study of individual needs cannot directly be used as a basis for educational offerings. Like community needs, individual needs require translation into what the individual can learn at the college level that would help him meet his needs. When one puts together the suggestions about what students could learn to meet their needs with what could be learned to help meet community needs, one may be surprised at the extent of the overlap. Many items are found that are both important to the individual and to the community as well. Of course, there will be some things that the college can teach

individuals to help them meet their needs that may have little direct community value. But it is important to help the individual get more meaning and satisfaction out of life as well as to contribute to the community.

This list of possible things to be learned in the college should then be reviewed in terms of the educational capabilities of the college. Are some of the items things that cannot effectively be learned here? The facilities may not be obtainable or the time required is beyond the scope of the college. Some human characteristics are so difficult to change after childhood that the effort to learn them is almost futile.

Perhaps another way of considering the educational capabilities of the college is to ask: Under what conditions can each of these things be learned, and can the college provide the conditions? The conditions include the settings, such as the classroom and laboratory, and informal settings, such as working on the job, field studies, and community service projects. In looking at both formal and informal settings for learning, the purpose is to estimate the capabilities they have for helping students learn. Some colleges are developing a comprehensive list of local community settings that could be utilized for student learning.

Syracuse University has a Learning Resources Center. This center has been able to identify hundreds of persons who are willing to serve part-time, informally, with no pay, to help in providing some resources for learning. It has also found settings which can be used. The center is located in an area which has very few higher educational facilities. These lists have been put into a computer, so that whenever any person comes into the Learning Center office, located in each of the major towns in that area, and talks about the things that he would like to learn, a list of people who would be able to teach him or the institutions and organizations that could help him are immediately identified. This appears to be an important resource in helping to raise the educational level of the communities and helping people to get much more education than they have ever had before. Other colleges ought to consider how far they can identify and catalog the resources that, combined with the formal college setting, can make a great contribution in meeting community and individual needs.

Another important set of conditions that affects the educational capability of a college is its time pattern. Only a fraction of those who could benefit from a college education can fit into a full-time schedule. Some can attend college only part-time. Some require irregular schedules. Some will need to be in for a term, and out for a while, and back in again. Some, while their children are being reared, may discontinue college work and then come back to complete their programs. How far can the college go in developing new time patterns?

Another very important part of planning is to distinguish between longer term goals and shorter term goals. This survey of the community and the individuals gives you a number of possible goals that may not be reached for a good many years. Most large industries carry on annual planning programs that project several years into the future. They try to synthesize data on the changing social conditions so as to estimate what the environment will be like several years hence, what problems there will be and what opportunities. On the basis of these projections, they tentatively establish long-term goals. They try to design a strategy that could enable the goals to be reached in several years. Having done that, they come back to the question, "What will we do next year in implementing that strategy?" They go the first year toward it, and then at the end of the year they again look several years ahead and modify the plan, if necessary. They are conscious of movement and change, and of setting new goals that are considerably beyond where they currently are. Now, in community colleges, one should ask, "What are we going to do next year? How are we going to move one year closer to a longer term goal?" Next year, we will review the situtation and where necessary revise the plan. This practice of establishing long-term goals and relating present activities to them enables you to work toward goals now beyond your grasp, but progress toward them can be made each year.

Long-term goals and plans make it possible to conduct assessments of community and individual needs at various times, rather than requiring a large and comprehensive effort all at one time. One part can be done at one period, and other parts at convenient later periods. The data can be accumulated and become more adequate and helpful as time goes on. What is important is to keep in continuing touch with potential students and the community, making intensive studies from time to time so that the needs of both community and individuals are increasingly identified in depth. Educational planning, based on these assessments, can greatly increase the contribution the college makes.

The Community College has tremendous potential value in our country, because our society can make use of educated people and educated people are important forces in maintaining and improving our society. If we use our resources most effectively and efficiently, guided by intelligent planning, it is possible for the community colleges of this state, as well as in other states, to make the most significant contribution to the production of educated people of any of our institutions.

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Assessing Operations: Can We Justify Current Faculty and Staff Procedures?

JOHN A. CENTRA

Presiding at the third general session was Dr. Jess Parrish, President, Shelby State Community College, Memphis. Dr. John Prados, Vice President for Academic Affairs, University of Tennessee, introduced Dr. Centra.—Ed. Note.

I will comment on three areas of assessment:

1. Assessing the operations of faculty members
2. Assessing administrator performance
3. Assessing operations of a college as a whole

Assessment in these three areas can be done by addressing either or both of two questions. First, how effective has the teacher, the administrator, or the college been in achieving objectives? In the case of colleges and teachers, this frequently gets translated into: How much have students learned? And second, what has been the performance of the teacher, the administrator, or, in a manner of speaking, the college itself? This generally gets translated into descriptions or ratings (i.e., more indirect measures of performance). And so we can obtain ratings or descriptions of teachers and their courses; of administrator performance; and of the general climate or environment of a college.

I will focus on the most important activity of the community/junior college faculty member: teaching. There are, of course, two major reasons for assessing teaching: one is to help make decisions about whom to promote, and another is to improve instruction—or, if you prefer, to improve learning. The two need not be mutually exclusive, although frequently when evaluation is judgmental it provokes anxiety and can be detrimental to improvement.

There are, unfortunately, some wild schemes being employed to assess teachers for administrative purposes. For example, how would you like to be a teacher at the community college that promotes and pays teachers according to the percentage of students who successfully complete the teacher's courses? Final course exams are made up by a college examiner (although the teacher can submit questions to

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the examiner), and if 90 percent of the students pass the courses at a prescribed level, then the teacher will be a full professor. If 80 percent pass, the teacher will be an associate professor, and so on. If fewer than 60 percent pass consistently, the teacher is released. Teachers can move up or down the ladder at the end of each year, so developing the college budget, let alone individual family budgets, must be hectic.

Assessing learning outcomes at the end of a course—or measuring the effects of teaching—has been advocated by Cohen and Brawer as the "ultimate criterion" for evaluating faculty performance. Actually an end-of-course achievement measure is only a measure of short term gains and is therefore less "ultimate" than long term gains which, one might argue, are the real pay-off. But long term gains—those that one might assess several years later—are not easily measured and even harder to attribute to the impact of an instructor or course. Furthermore, the short term gains assessed at the end of a course are probably the best estimate available for long-term gains.

Assessing end-of-course outcomes as they relate to specific written objectives for the course are an important part of the so-called systems approach to instruction which many community colleges have adopted. The instructional procedures, which the individual teacher selects in consultation with a supervisor and instructional dean, include a variety of learning activities such as programmed instruction, student tutors, films, slides, field trips, lectures, and discussion groups. The important point is that these experiences are arranged so as to provide optimum learning, and if the evaluation of student performance indicates that particular objectives are not being attained, then the learning activities for that unit are revised.

The evaluations of the systems approach that I know of—and these again have been at community colleges—are quite positive [e.g., Gilley, 1972*]. Students master more of the course material, they rate this approach very high, more graduate, and following graduation they perform well on the job or in four-year colleges.

So the systems approach to instruction, and I would include the so-called Keller method (or personalized system of instruction) in this category as well, appears to be getting very high grades [Kulik, Kulik and Carmichael, 1974]. This is all well and good because like many other people I believe there has been and still is too much aimless lecturing that goes on in postsecondary education. In fact most traditional lecture or lecture-discussion courses could probably profit by having instructors make explicit their course objectives and by periodically testing students to see whether these objectives were being met, sometimes referred to as formative evaluation. (I recently had occasion to look at the responses of some 2800 college teachers to

*All reference notations in Mr. Centra's speech have been made by the editor.

the question, "When did you last make changes in the teaching methods you are using?" About a fourth indicated they had never made changes).

But what about using end of course achievement gains in assessing an instructor for administrative purposes—that is, for making tenure and promotion decisions? It seems to me that there are some problems and limitations that should be kept in mind. Multiple sections of the same course would be the most likely candidates for this use, so it would be necessary to devise an end of course test that assesses objectives on which instructors teaching the course have agreed. Assuming they do agree—no small assumption by any means—then there should be a common pretest at the beginning of the course, and, ideally, the random assignment of students to the sections. As any experimentalist knows, randomization is the only definite way to make proper allowances for uncontrolled preexisting differences between students in each section. Finally, if students' achievement test scores are fed into the reward structure, we may eventually expect teachers to begin teaching to the test, which would undoubtedly reduce the scope of the course and consequently the learning process. Because of these and other limitations of student achievement gains, the assessment of faculty for administrative purposes generally includes some subjective judgments of performance, which I turn to next.

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An evaluation of teaching performance, or what might be called the teaching process, generally involves judgments about what happens behind the classroom door. This is unfortunately a narrow view since academic or personal advisement and other out-of-class contacts with students are also part of most faculty members teaching. Nevertheless, a teacher's classroom performance is usually the focus of this category, and in most instances the students, as both constant observers and consumers, are called on to record their ratings and reactions. Student ratings tend to be reliable statistically, and several studies have also indicated that they appear to be moderately related to how much students learn in a course [Costin, Greenough & Menges, 1971; Gessner, 1973]. Moreover, a study I completed in 1972 provided evidence that student ratings can help instructors improve their teaching practices, even if the results are seen only by the individual teacher [Centra, 1973]. Briefly, the study involved an experimental design in which random groups of teachers at five different types of colleges received feedback from students while other teachers—those in the control groups—did not. Through repeated student ratings it was determined that feedback did indeed result in some changes in teaching practices. One major conclusion was that instructors whose self-evaluations were considerably higher than their student ratings tended to make classroom adjustments

within as little as a half semester after receiving feedback from their students. In other words, teachers who found that their own views were unrealistic in relation to their students' views moved rapidly to the use of different techniques. The second major conclusion was that, over a longer period of time, a wider variety of instructors made changes, provided they had some information to help them interpret their scores. In this case, the interpretive information was nothing more than data that allowed teachers to compare their ratings with those of other teachers. It seems reasonable to assume that more specific information on how to improve instruction would produce even greater changes. In other words, student ratings might be used as a catalyst or stimulus for helping to acquaint teachers with instructional improvement information at a point when they would be motivated to consider it.

One criticism made occasionally of student ratings is that they provide only one point of view about classroom performance—one that might differ considerably from the more professional view offered by a teacher's colleagues. Indeed, the role that colleagues might play in evaluating and improving teaching appears to be increasingly discussed as an alternative or supplement to student ratings. My own view, based on a study that I recently completed, is that colleague evaluations of classroom performance are not very reliable—at least they were not reliable when based on a reasonable visitation schedule [Centra, 1974]. The study was conducted at a college in its first year of operation. Therefore teaching reputations had not yet been established, so it was assumed that colleagues would more likely base their evaluations on actual classroom observations. Confidentiality of the ratings was assured in that all colleague ratings were submitted directly to me and at the end of the term the teacher received only a summary of his ratings. Each teacher was observed and rated twice by each of three colleagues for a total of six separate ratings. Teachers were visited by colleagues from both their own and other departments. Selected for ratings were such questions as whether the instructor used class time well, whether he or she raised challenging questions or problems for discussion, and to what extent examples or illustrations were used for clarification. Some global items also were included, such as overall effectiveness of the instructor and the quality of the lecture, the class discussions, and the textbook(s).

The reliability analysis indicated that there was not a great deal of agreement among colleague raters. There was, however, a fairly high correlation of the ratings given by individual colleagues on their first and second visits to the same classrooms. For example, on the item concerned with overall instructor effectiveness, analysis revealed a dramatic difference between the average correlations of ratings by different colleagues and of first and second ratings by the same col-

leagues. The average intercorrelation among ratings by different colleagues was slightly under .26. But for ratings by the same colleagues, it was .78. These results were not unusual, and they suggest that the faculty raters, because they did not agree with each other to a significant extent, were using a somewhat different basis for their judgments.

The lack of agreement among colleagues would seem serious enough to cast doubt on the value of their ratings of those aspects of instructor performance included in the study. It is likely, however, that if more colleagues visited each teacher, their average responses would be more reliable, just as aptitude test scores usually become more reliable when the number of test items is increased. The problem here is a practical one. To increase reliability to an acceptable level, each instructor probably would have to be visited several times by at least a dozen colleagues and visit others in turn. It is unlikely that institutions would be able, or faculty members willing, to invest the necessary time and effort.

On the basis of this kind of evidence, colleague ratings of classroom performance would not seem reliable enough to use in making administrative decisions on tenure and promotion. This is not to say, however, that colleagues' judgments about such things as a teacher's course outlines, knowledge of subject matter, examinations, and materials employed in instruction should not be obtained and—particularly colleagues from the same discipline—used. These are more likely areas in which colleague judgments—particularly colleagues from the same discipline—would be more reliable and would be an important additional consideration in administrative decisions or in improving teaching.

When assessing faculty for tenure and promotion decisions, information from several methods ought to be considered. Student ratings of instructional procedures and effects, and achievement gains (i.e., course outcomes) ought to be among these methods but only if proper guidelines are established in collecting and interpreting the results. Looking at patterns of ratings and gains across courses and over time would, it seems to me, be part of the guidelines. And being aware of alternate explanations for results is also necessary. For example, were achievement "gains" caused by a limited set of objectives/outcomes? Did a difficult pretest and a relatively easy post-test produce the gains? Were low student ratings caused by certain course-related or student-related factors over which the instructor had no control?

For instructional improvement, however, certainly both of the

methods can play important roles, as can colleagues, and guidelines are then less critical.

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In a recent issue of *The Public Interest*, management expert Peter Drucker turned his attention to the managing of public service institutions. Included among public service institutions are schools and colleges, hospitals, research laboratories, and of course your own TVA (which Drucker cites as an example of an effective public service institution, especially in the 1930's and 1940's when David Lilienthal headed it). These institutions are not businesses and "performance" means something quite different for them. To be successful, Drucker argues that "what they need is not 'better people,' but people who do the management job systematically and who focus themselves and their institutions purposefully on performance and results. They do need efficiency—that is, control of costs. But above all, they need effectiveness—that is, emphasis on the right results."

Drucker goes on to prescribe such things as deriving clear objectives, setting priorities, defining minimum acceptable results, and making someone accountable for results. The whole approach, which of course parallels the systems approach to instruction discussed earlier, emphasizes some kind of measurement of performance for the individual administrator as well as the institution as a whole (for the community college it might be the proportion of students who graduate and who are successful in their jobs or in further education).

Judging by the number of educational institutions that have adopted many of these management techniques, I suspect that they have had some success. The techniques have certainly acquired disciplines as well as ardent critics.

In contrast to administrator accountability based on some performance results (which is generally a top to bottom assessment), there is a current groundswell for administrator evaluation by faculty members. Apparently the feeling among faculty members is that if they can be evaluated by their constituents, then by all means so can administrators. A recent letter addressed to ETS from a member of a faculty committee set up to implement such an evaluation mentioned the "principle of mutual accountability" based on a procedure of "mutual evaluation of leadership and performance, cooperation and competence, of faculty members and administrative officers."

A few institutions have already established formal systems of administrator evaluations by faculty members. One community college, for example, asks faculty members to evaluate their associate dean, who in turn evaluates the dean. Their evaluation form includes such areas as communications (e.g., explains rationale for administrative actions and decisions), management (e.g., when appropriate, takes

action upon faculty questions, complaints, suggestions, and requests), and instructional leadership (e.g., objectively counsels staff members on instructional problems in a professional manner).

The assessment of administrator performance by faculty members (and perhaps by students when appropriate) is relatively new but would seem to have potential for improving administrative procedures.

Up to this point my comments have focused, for the most part, on the assessment of the effectiveness of performance of specific teachers and administrators. In this final section, I'd like to comment briefly about the assessment of the more general operations of a college.

Again, let's begin by considering the assessment of outcomes, or the effectiveness of a college. In particular, I'd like to comment on the assessment of student learning as a measure of college effectiveness. Past multicollege research studies [Astin, 1968; Rock, Centra and Linn, 1970] have indicated that a high proportion of the differences between colleges in the academic achievement of their seniors (output) is predictable from the academic aptitude of their students at entrance to college (input). That is, if some *common* measure of liberal arts attainment is used (in the past studies, achievement on the Social Science, Natural Science and Humanities Area tests of the GRE Institutional Testing Program were the output measures), the relative attainment of colleges would be related largely to the general ability level of their students rather than definable characteristics of the colleges. This does not necessarily mean that colleges have no impact, however. More likely, it suggests that specific programs or departments within colleges need to be assessed, rather than looking only at overall achievement measures or overall outcomes. It also suggests that identifying specific college goals and measures related to those goals is critical for institutional assessment.

Another method of assessing the operations of a college are through ratings or descriptions provided by relevant groups. This has generally been referred to as an assessment of the college environment or climate. Some of you I'm sure are familiar with the work of Pace (1963) and Stern (1958) in this area, which dates back some 15 years. They advocated assessing student perceptions of their college on such aspects as its facilities, courses, professors, rules and regulations, extracurricular activities, and the like. The logic was that colleges could then determine whether their environment seemed to fit the goals of the institution. If it did not, colleges might want to change either some aspect of their operations or facilities, or of their goals. I would estimate that the majority of colleges and universities have used one or another standardized "environmental" instrument. (Many have been developed in the past decade and not all obtain only student perceptions of the environment; e.g., *The Institutional Func-*

tional Inventory [Peterson, et al., 1970], which assesses faculty and administrator views on such dimensions as institutional esprit, democratic governance, and concern for local needs.]. In many instances I'm sure that needed changes resulted; in some instances, the information derived was disregarded or never got beyond the institutional researcher and president.

It seems to me that this approach can be very useful if the areas assessed are relevant to a particular college. Many of the instruments have simply not been especially appropriate for the community/junior college. For this reason a couple of colleagues out at the Berkeley ETS office recently developed an instrument specifically aimed at the two-year college. Referred to as the *Student Reactions to College* or SRC [Warren and Roelfs, 1973], the items in the questionnaire were inspired by a large number of interviews conducted with students and staff of junior colleges across the country to determine the kinds of information considered important that students could provide. The items in the final form of the questionnaire deal with students' classroom instruction, their goals and planning, student activities, administrative problems and various aspects of daily living such as housing and transportation and student-staff contact. Student responses to the items in these areas suggest what kind of student expectations are not being met and how students are generally reacting to current faculty and administrative procedures.

In addition to having appropriate instruments or assessment devices, it is also necessary to use the information in ways that will produce needed changes. This is an area that we seem to know much less about. More thought needs to be given to developing strategies for implementing changes suggested by environmental measures.

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I have discussed three areas of assessment and two ways for assessing each. The latter consisted of assessing outcomes or performance, and obtaining ratings (or more indirect measures of performance). For each of the three areas—faculty (teaching), administration, and the operations of a college as a whole—both procedures of assessment are needed in order to reduce error and to obtain the best estimate of "how well things are going."

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Assessing Outcomes

JAMES POPHAM

**A slightly edited and considerably condensed transcript of Professor Popham's extemporaneous presentation.*

Dr. Cuylar Dunbar, Jr., President of Roane State Community College, Harriman, presided at the fourth general session. Dr. Jack E. Reese, Chancellor of The University of Tennessee, Knoxville, made a few remarks and introduced Dr. Popham.—Ed. Note.

For the past two years I have been working with community colleges. I must confess I lived in a relative aimless state before then. I had not worked much with community colleges. Frankly, I didn't think they wanted to do much about improving themselves. I think I was wrong. They clearly do, and I will recount some of my experiences in the general area of assessing outcomes because that is what I am supposed to chatter about today with you.

I am really pleased to be talking about assessment because I believe that of all of the technical advances that we are learning about today in the field of education, the one that is apt to make the most differences is the new advances in the field of measurement. I really think that if we take advantage of them properly we can bring about substantial improvements in the quality of instruction in any level, K through senility. So I am happy to be talking with you today. But you know that when you're back in Los Angeles and you agree to accept an invitation of this sort, you don't quite know what the situation is locally, so what I have been doing since arriving around midnight last night and all during the day is trying to get a better fix on Tennessee community colleges and what it is that I could realistically say to you that might make a difference.

I listened to a great many people talk in the small groups about evaluation almost synonymously with ratings of teachers. I know that some of you don't make that equation, but many people do. Clearly the kind of outcome evaluation I am talking about today is something more than what students think of their professors. I want to get some evidence as to what students can do as a consequence of what their professors do to them, and I was pleased to hear John Centra talk about the scheme wherein if students scored ninety percent or better on certain tests, their instructors would become full professors. If they score eighty percent or better, their instructors would become associate professors, and if they scored sixty percent or below, their instructors were relieved of their jobs. We have a similar system in

California, except that if the students score below sixty percent consistently, we make their instructors *deans*!

You were apparently informed yesterday that people have to want to be evaluated before evaluation can take place. That is a nice myth and I hope you treasure it. It is simply not the case. In California, two years ago, a law was enacted by our legislature and signed by Governor Reagan. We were surprised when this law was passed. It was called the Stull Act, named after its author, Assemblyman John Stull of San Diego. The essence of the law said that each teacher, K through 12, in the State of California will be evaluated, probationary teachers annually, non-probationary teachers biennially. These evaluations would be conducted through locally devised systems as long as the locally devised systems included the ingredient of pupil attainment. Until the last weeks prior to that particular law's enactment, community college instructors were also included in the law, and only at the last minute another law softening up what the community college people had to do made their evaluation unnecessary. Had that second law not been passed, community college instructors *whether or not they warmed up to the idea of being evaluated* would have been evaluated. It was that close in California. I don't know what your political situation is like here. I think it's very important for anyone who is involved in education to become very, very sensitive to the possibility of legislatively imposed evaluation.

If I had to pick the level at which the worst education in America takes place, it clearly would be in higher education. I am part of it. I think the worst possible education takes place at the graduate level, but we, so far, have escaped the scrutiny that has been directed toward the K through 12 level. I don't think we will continue to escape it. I don't think we should escape it, and if we do not shape up our own shop, I think other people in state capitols ought to do it for us.

Now I won't be telling you specifically about advances in measurement that probably are going to make a difference in what you do next week. It makes an enormous difference in the kinds of tests that educators select to judge the quality of what they're doing. I think we all have the responsibility to learn something about these new approaches. Just the way you devise tests for your own classes can be influenced adversely, I believe, by former conceptions of educational measurement. There are new things happening in the field of measurement, things that make a real difference when it comes to evaluation. People who try to play the evaluation game at any level of education using antiquated conceptions of measurement will be making a serious error.

I want mostly to talk about the distinction with which some of you are familiar, and I apologize for the fact that I will go over old terrain. But for many people in our field, the distinction is one they have not

even heard of or, if heard of, don't understand. To understand why people these days are fascinated by the new approaches to measurement, you really have to go back a while. You have to realize that in our country we have the sharpest technology of measurement of any nation in the world. We have been playing this game for fifty-plus years. We have sharpened that technology so that we assume that the measurement techniques we employed in the early 30's, 40's, and 50's are appropriate for any kind of purpose. That is clearly an error in judgment. The early testing operations of our nation were primarily predicated on the necessity to identify individuals who could do well in the military. World War I and World War II presented to us a situation where we had to identify individuals who would become good officers. So the job was to sort people out, to pick out the ones who were apt to do well on the battle field. This fostered a conception of measurement which became known as norm-referenced. Its primary mission was to sort people out according to that glorious bell-shaped, symmetrical curve which everyone knew was there. There was a normal distribution of intelligence, a normal distribution of intellectual capabilities. Everything was normally distributed.

If you read carefully the writings of measurement specialists of the 30's, 40's, and 50's, you will discover a rather thoroughgoing disdain for the impact of education. They didn't think that you could shape up education very much as a consequence of what went on in schools. Thus, if they discovered that tests produced performance distributions which were fairly normal in shape, they were quite satisfied. That was, after all, the way the world was supposed to be. It was the job of the measurement person to spot the underlying normalcy of distribution which was present.

But around 1960 we discovered a very small collection of people who were influenced by the possibility of applying experimental laboratory techniques to the improvement of instruction. These were the programmed instruction enthusiasts; they began to discover that you could produce a distribution of scores which was not shaped like a normal curve. They discovered that by trial and revision techniques you could get a large proportion of learners up to high level mastery and, as a consequence, they noted that some of the measurement techniques which they had been reared on just didn't work any more.

In 1963 Robert Glaser, one of the people who was very instrumental in that particular movement, cast his classic distinction between what he called norm-referenced measurement and criterion-referenced measurement. In that distinction Glaser described the classic kind of measurement we had been used to as that which was designed to ascertain an individual's status with respect to other individuals. That is why it is called norm-referenced, because you reference the performance of an individual to the performance of

other individuals. You say that Mary is at the 69th percentile; George is at the 47th percentile of the norm group's performance, and that is the way you make sense out of one's performance on such tests. In contrast, Glaser talked about criterion-referenced measurement. Criterion-referenced measurement was designed to show you exactly what a learner could and could not do with respect to a well-defined class of learner behaviors.

In recent years people have really begun to recognize the incredible deficiencies of standardized norm-referenced achievement tests for purposes of evaluating the quality of education. Anytime you use those measures for evaluative purposes, you're making a very serious error. Now it's all right to use such measures for purposes of selection. I am not knocking them for that mission; if you can correct for their cultural bias defects, they probably are quite good. If we have to choose among twenty students who apply to UCLA to get into our graduate program, and we can only take 10, we do use scores on the Graduate Record Exam and the Miller Analogies Test because we have to make selection decisions. But that is not for evaluating the quality of education; that is not for evaluating the quality of my instruction as a professor. I am talking about the misuse of the kinds of measures that were originally designed in the 30's and 40's for selection decisions.

The first defect with standardized achievement tests is that they generally are produced by commercial firms which, even though they be non-profit, have to sell their tests or they don't stay in existence. Such firms could get by for a few years if they didn't sell their tests, but, frankly, they make a lot of money out of the sale of those tests, and if they spelled out precisely what those tests measured they wouldn't sell half as many. I submit they wouldn't sell as many because in our country, the way education is set up different districts, different communities have different curricular predilections. It's a local control game, and what is emphasized in rural Iowa is not what is emphasized in urban Miami or Knoxville. Now if the developers of standardized achievement tests spelled out with great precision what it is that they are assessing, you would discover that many people out in the schools would not buy them because they would say "that is not really what I am teaching here." As a consequence, these commercial tests outfits, to make those tests palatable, use the classic Rorschach ploy. They describe their tests very generally and allow people to see into an ink blot what they want to see. What this means is that many times, although you're using a test which measures reading comprehension, and you know what you mean by reading comprehension, it actually is mismatched with what you're emphasizing. So you get distortion between what you're teaching and what the tests are measuring.

A second problem is that norm-referenced achievement tests have

very general descriptive rubrics, such as reading comprehension, quantitative competence and so on. It is extremely difficult, given those broad descriptors, to eliminate deficits on the part of learners. If the learners don't do well, you don't know how to make things better, because their deficiencies are described too broadly. To tell a teacher that students are performing below the 15th percentile on Standardized Achievement Test X doesn't help that teacher one bit, because the teacher doesn't know how to make the situation better.

The third problem with such tests is one that I have recognized only in the past two years. You remember the purpose of norm-referenced tests? It is to spread people out. If you don't spread people out, you cannot make the comparisons among individuals which is integral to the notion of a norm-referenced test. If you have a big bunch of scores, an indistinguishable blob of scores, you can't discriminate among individuals. There is no possibility of saying that Johnny is better than Billy. You have to have the variance. Items answered correctly by fifty percent of the examinees maximize a test response variance. People who produce standardized achievement tests would like to get their items answered correctly by about fifty percent of the people. Ideally, it would be people who did well on the total test, but essentially you want items to be answered correctly about fifty percent of the time. Items that are answered correctly by a large proportion of examinees, for example, eighty to ninety percent, must be modified, or eliminated, since they don't contribute sufficiently to the production of response variance. Items that people do well on have to be thrown out, or have to be changed. They aren't doing their share to spread out the learners.

In general, however, the items on which most students perform well reflect the concepts teachers believe are important. The things that teachers are banging hardest at will be the things that kids do well on. Hence, with oft-revised achievement tests, items measuring important concepts are systematically eliminated so that, over time, such tests become nothing more than intelligence tests. When we are told, then, that there is a very high correlation between entrance characteristics of learners at college and exit characteristics of learners at colleges, there should be no surprise at all, because the two measures are essentially the same. Now I am not saying that every achievement test is not more than an intelligence test, but there are built-in tendencies to make those achievement tests, if they're revised very often, assess the things that aren't important. The important things will be the items that kids do well on, and the items kids do well on will be the ones that are eliminated.

Ralph Tyler spoke to you last night. I don't know—I wasn't here—whether he made the point that in several recent international studies he's been looking at the only items that discriminated among

learners were the ones that are *not* taught in school. The items topping things that are taught in school have long since been eliminated from the tests. Now that's not going to happen to every item. You can look at standardized achievement tests, and you will discover some good items. But there are systematic tendencies for standardized achievement tests to lose the very items that are most important.

Therefore, because of the three reasons just specified, because they have built-in tendencies to exclude important items, because of their incongruence with local instructional emphases, and because of their weak descriptive power, norm-referenced achievement tests are inappropriate for evaluation.

The advantages of criterion-referenced tests for evaluation purposes, however, is their descriptive power. The difficulty with many of these tests that are being produced now throughout the country is that they might better be described, I am afraid, as "cloud-referenced tests." The people who are producing the so-called criterion-referenced tests are faced with the classic dilemma of test publishers. The more precisely you spell out what you're doing, the more you cut your market. And so what some of these firms are doing is describing their tests as criterion-referenced even though the items measure ill-defined global objectives. Essentially, the objectives are very badly explicated. The items are inadequate in number. So you have to anticipate a good many abuses that will be associated with so-called criterion-referenced tests. I think you have to be very, very circumspect in examining these measures. Do not assume that everything that masquerades under a criterion-referenced banner is, in fact, a worthwhile measure. You will discover, I think, that the only serviceable way of developing criterion-referenced measures is to develop a description of the class of behaviors with which the test items will be congruent.

Earlier today a gentleman asked the question, "Isn't there a danger that we end up teaching to a test?" Indeed, isn't there a danger that the whole evaluation movement in education will not become restricted and will force us to teach toward more trivial, more mundane kinds of goals? There is always that risk. It is not wrong to teach toward a target. It is wrong to teach to a particular set of items. It is not wrong to teach to a description of an almost unlimited set of items. If I described for you the limits by which I can generate a series of test items in the field of mathematics, English or whatever, and I say I will teach my learners to be able to cope successfully with any item generated from that domain of possible test items, that is a great target to teach toward. Indeed, if we made it clear what we were teaching toward, then we could contest the inappropriate targets.

I think that all of the emphasis that you have heard throughout this conference on assessment, on accountability, on evaluation is very

laudable. It is laudable if you provide at the same time some vehicles whereby those who will be evaluated have a chance to win. I think it is unethical to visit evaluation and assessment schemes on people who have not been trained to survive under that kind of scrutiny.

Well, at the outset of my remarks I suggested that measurement advances in the field of education could represent the single most important technical improvement scheme that we had available to us. Whether or not it is employed profitably at the community college level is obviously up to people like you.

Conference Summary

OHMER MILTON

Dr. Milton summarized the conference—the addresses and reaction group sessions—at the fourth and final session.—Ed. Note.

I will try to avoid repeating the specific comments which have been made during these two days; rather, I would like to convey the tenor of the meeting and to emphasize certain of the major issues which were discussed. These are selective perceptions on my part and I hope I have not missed the target.

The major purpose of this conference was that of consciousness-raising. We chose this purpose because serious attention to assessment in higher education is somewhat new and it was our belief that many of us were not too familiar with it. Thus we reasoned that the first step for those of us in higher education in the state of Tennessee was that of becoming more aware of, or better acquainted with fundamental issues than many of us were.

Beginning with the opening address of Laura Bornholdt, it has come through repeatedly that we need to ask different kinds of questions about assessment than the ones we have been asking. There are at least three fundamental questions which need much more consideration in the near future than they have received in the past as we attempt to evaluate instruction. The first of these is: *"What is instruction?"* I am afraid that the usual answers to that question are based upon some rather thoughtless assumptions, one of which is that learning by a student is a sort of *direct* result of what an instructor does.

One way of approaching the question of "what is instruction" is to determine and examine all of its components. While it would lead us too far afield to review those, I do call your attention to the fact that one thing which almost all instructors undertake is an attempt to measure the learning or achievement of their students. The address by Dr. Popham focused on that particular component. It is my observation that testing or measurement is the weakest feature of higher education instruction, and in this connection, I learned only recently—and I must confess to my surprise—that true-false tests are being used on our campus here in 1974 even though it has been known for many years that they are the poorest of all measuring devices.

If I am correct in my assertion that testing or measurement is a very weak feature of instruction, then a recent decision by the United States Supreme Court has momentous implications for us. About three years

ago, the Duke Power Company was sued for racial discrimination in job promotion policies. It was necessary for a laborer to have either a high school diploma or to pass *two tests* in order to be promoted to coal handler. Not only did the Supreme Court rule that the company was guilty of racial discrimination but more important than that, it ruled that there must be a demonstrable relationship between a score on a test and performance on the job. The real issue is not racial discrimination but the predictive validity of tests and this is one that has been ignored rather carefully by most of us. The computer may cause us to ignore it even more than we have before because now we can go as many places to the right of the decimal point as we wish and can set cut-off scores at hundredths or even thousandths of a point.

The second question is: *"How can we reorient our viewpoint toward evaluation of instruction?"* The question of "Are we going to evaluate?" has been answered in the affirmative. I have gotten the impression during this conference, however, that the prevailing attitude toward evaluation is one of fear and anxiety on the part of most of us. If this is the case, it may be the result of the fact that we, as educated people, have already had more than our share of evaluation because we have spent more time in school than others. In all too many instances, evaluation means that the individual is found wanting; this is a by-product of norm-referenced testing. In other words, evaluation has negative connotations—it should have positive ones. Unfortunately, little thought was given to how to alter the negative attitudes.

A final question to be considered is: *"What is evaluation?"* I observed during these two days marked confusion in the thinking of many between measurement and evaluation and between subjective and objective. Since I am going to leave this meeting in a few minutes, I can make a few flat assertions. Evaluation is always subjective because by definition it means human beings making judgments. We may begin the process with quantification (and that is where objectivity enters) such as a blood pressure reading or a score on a test. We make better evaluations or reach better judgments if the quantifications are accurate or are good measures. The physician in looking at the blood pressure reading then makes a judgment—it is abnormal; it is too high; it is too low; or it is normal. In any case, he has made a human judgment. As for a score on a test, we, as educators, make the judgment—the student is a good student or a poor one; he has learned what he is supposed to have learned or he hasn't learned, and so on. If my line of reasoning is sound, and I am quite aware that I have touched a profound issue only sketchily, our problem in evaluation is not one of eliminating subjectivity as such, because that is impossible. Rather, the problem is that of minimizing extraneous and irrelevant variables as we arrive at these human judgments.

CONFERENCE ROSTER

Adams, Marilyne E.
University of Tennessee, Knoxville
Knoxville, TN

Adkisson, D. F.
Cleveland State Community College
Cleveland, TN

Allard, Sandra
Tennessee Higher Education Commission
Nashville, TN

Allen, Joe
Cleveland State Community College
Cleveland, TN

Amburgey, Jim
Hiwassee College
Madisonville, TN

Armstrong, Anne
Walters State Community College
Morristorn, TN

Arwood, Vic
Knoxville College
Knoxville, TN

Atkerson, Jay
Chattanooga Board of Education
Chattanooga, TN

Ayers, Jerry B.
Tennessee Technological University
Cookeville, TN

Bailey, Mrs. Jennifer
Walters State Community College
Morristown, TN

Barrett, Ronald
University of Tennessee, Knoxville
Knoxville, TN

Battle, Jerry
Columbia State Community College
Columbia, TN

Bellon, Elner and Jerry
University of Tennessee, Knoxville
Knoxville, TN

Blank, Kermit and Mary Anne
University of Tennessee, Knoxville
Knoxville, TN

Bowen, Sue
Cleveland State Community College
Cleveland, TN

Boyd, Mary
University of Tennessee, Knoxville
Knoxville, TN

Bradley, Nolen
Volunteer State Community College
Gallatin, TN

Branch, Barbara
Memphis City Schools
Memphis, TN

Brock, John
University of Tennessee, Knoxville
Knoxville, TN

Brown, Donald
University of Tennessee, Knoxville
Knoxville, TN

Bryant, Ralph
David Lipscomb College
Nashville, TN

Buffington, Ernest
University of Tennessee, Knoxville
Knoxville, TN

Burgess, Bryan
Motlow State Community College
Tullahoma, TN

Calhoun, Will
University of Tennessee, Knoxville
Knoxville, TN

Campbell, William
Tennessee Technological University
Cookeville, TN

Carr, Jack
Chattanooga Board of Education
Chattanooga, TN

Cebick, Mrs. Leroy
University of Tennessee, Knoxville
Knoxville, TN

Childress, Ron
University of Tennessee, Knoxville
Knoxville, TN

Clemmer, Uriah
Columbia State Community College
Columbia, TN

Coburn, James
Walters State Community College
Morristown, TN

Coffield, William
University of Tennessee, Knoxville
Knoxville, TN

Cole, Edna
University of Tennessee, Knoxville
Knoxville, TN

Coleman Bob
East Tennessee State University
Johnson City, TN

Coleman, Lucretia
University of Tennessee, Knoxville
Knoxville, TN

Coleman, Ray
Cleveland State Community College
Cleveland, TN

Compton, S. Van
Chattanooga State Tech.
Chattanooga, TN

Cook, Robert
Tennessee Higher Education Commission
Nashville, TN

Counts, Mrs. Perry
East Tennessee State University
Johnson City, TN

Culbreth, Spencer
Cleveland State Community College
Cleveland, TN

Cunningham, Joel
University of Tennessee at Chattanooga
Chattanooga, TN

Denton, S. M.
State Department of Education
Knoxville, TN

Dockery, Ray, Jr.
University of Tennessee, Knoxville
Knoxville, TN

Dixon, Becky
University of Tennessee, Knoxville
Knoxville, TN

Dixon, Dale
Tennessee Technological University
Cookeville, TN

Dunbar, Cuyler
Roane State Community College
South Harriman, TN

Sister Dominican
Aquinas College
Nashville, TN

Durham, Edward
Columbia State Community College
Columbia, TN

Edwards, Gerald
Dyersburg College
Dyersburg, TN

Edwards, Frank
Dyersburg College
Dyersburg, TN

Essler, Warren O.
Tennessee Technological University
Cookeville, TN

Farris, Jim
University of Tennessee, Knoxville
Knoxville, TN

Fillers, Marilyn
Cleveland State Community College
Cleveland, TN

Foutch, Linda
Walters State Community College
Morristown, TN

Goldberg, Paul
Roane State Community College
South Harriman, TN

Graf, Leroy P.
University of Tennessee, Knoxville
Knoxville, TN

Gray, Tom
Martin College
Pulaski, TN

Hall, Ralph
Walters State Community College
Morristown, TN

Hall, Sidney
Walters State Community College
Morristown, TN

Hammond, Lillian
Shelby State Community College
Memphis, TN

Hampton, Don
University of Tennessee, Knoxville
Knoxville, TN

Harrell, Nelda
University of Tennessee, Knoxville
Knoxville,TN

Hedgepath, Sally
University of Tennessee, Knoxville
Knoxville, TN

Heineman, Betsy
University of Tennessee, Knoxville
Knoxville, TN

Henry, J. W.
Chattanooga Board of Education
Chattanooga, TN

Herndon, Gwen
Shelby State Community College
Memphis, TN

Hileman, Don
University of Tennessee, Knoxville
Knoxville, TN

Hodge, Lewis
University of Tennessee, Knoxville
Knoxville, TN

Hoglund, Daniel
Roane State Community College
South Harriman, TN

Honaker, Evelyn
Walters State Community College
Morristown, TN

Honey, Audrine
University of Tennessee, Knoxville
Knoxville, TN

Howell, J. D.
University of Tennessee, Knoxville
Knoxville, TN

Hughes, Frank
University of Tennessee, Nashville
Nashville, TN

Humphreys, C. C.
State Board of Regents
Nashville, TN

Hyder, Charles
University of Tennessee at Chattanooga
Chattanooga, TN

Ingram, Fred
State Department of Education
Nashville, TN

Ingram, Sam
Motlow State Community College
Morristown, TN

James, Waynne
University of Tennessee, Knoxville
Knoxville, TN

Jones, M. Jean
Columbia State Community College
Columbia, TN

Kelley, Paul
Knoxville City Schools
Knoxville, TN

Kinsey, Ann
University of Tennessee, Knoxville
Knoxville, TN

Lane, Quentin
Cleveland State Community College
Cleveland, TN

Lawrence, Haward
State Technical Institute
Memphis, TN

Lawson, Hoyle
Tennessee Tech. University
Cookeville, TN

Lindsey, Don
Walters State Community College
Morristown, TN

Lyle, Katheryn
Memphis City Schools
Memphis, TN

MacGaw, Grace
University of Tennessee at Chattanooga
Chattanooga, TN

Mahmoud, Cathy
University of Tennessee, Knoxville
Knoxville, TN

Mamantov, Charmaine
University of Tennessee, Knoxville
Knoxville, TN

Marchese, Helen
University of Tennessee, Knoxville
Knoxville, TN

Martin, Fred
Roane State Community College
South Harriman, TN

McComas, James
University of Tennessee, Knoxville
Knoxville, TN

McCullough, Ken
University of Tennessee, Knoxville
Knoxville, TN

McDow, John
University of Tennessee, Knoxville
Knoxville, TN

Meyers, Odessa
Memphis City Schools
Memphis, TN

Mikula, Don
Shelby State Community College
Memphis, TN

Milton, Ohmer
University of Tennessee, Knoxville
Knoxville, TN

Minter, Anne
Roane State Community College
South Harriman, TN

Moats, William
Chattanooga Board of Education
Chattanooga, TN

Moore, Lewis
Columbia State Community College
Columbia, TN

Newfeldt, Harvey
Tennessee Tech. University
Cookeville, TN

Painter, Al
University of Tennessee, Knoxville
Knoxville, TN

Pangle, Clayton
University of Tennessee, Knoxville
Knoxville, TN

Parrish, Mrs. Violet
Volunteer State Community College
Gallatin, TN

Parrish, Jess
Shelby State Community College
Memphis, TN

Peek, Venice L.
University of Tennessee, Knoxville
Knoxville, TN

Peters, John M.
University of Tennessee, Knoxville
Knoxville, TN

Prados, John W.
University of Tennessee, Knoxville
Knoxville, TN

Preus, Paul
Memphis State University
Memphis, TN

Price, Sydney
University of Tennessee, Knoxville
Knoxville, TN

Pritchett, Josephine
Cleveland State Community College
Cleveland, TN

Ramer, Earl M.
University of Tennessee, Knoxville
Knoxville, TN

Ramer, Hal
Volunteer State Community College
Gallatin, TN

Reed, T.G., III
University of Tennessee, Knoxville
Knoxville, TN

Reese, Jack
University of Tennessee, Knoxville
Knoxville, TN

Richardson, Ruth D.
University of Tennessee, Knoxville
Knoxville, TN

Risdahl, Gerald
Walters State Community College
Morristown, TN

Robinson, Dean
Cumberland College
Lebanon, TN

Robinson, Omar
Shelby State Community College
Memphis, TN

Roden, Paul W.
Carson-Newman
Jefferson City, TN

Roeske, Edward
University of Tennessee, Knoxville
Knoxville, TN

Rose, James
Tennessee Tech. University
Cookeville, TN

Russell, Lynn D.
University of Tennessee at Chattanooga
Chattanooga, TN

Ryan, Thomas K.
University of Tennessee, Knoxville
Knoxville, TN

Ruffin, Herbert
University of Tennessee, Knoxville
Knoxville, TN

Sands, Paul
Columbia State Community College
Columbia, TN

Schaerer, John
Chattanooga Board of Education
Chattanooga, TN

Schoch, Eugene W.
University of Tennesee, Knoxville
Knoxville, TN

Seng, Leonore
University of Tennessee, Knoxville
Knoxville, TN

Sharpe, Ralph
Walters State Community College
Morristown, TN

Shirley, David A.
University of Tennessee, Knoxville
Knoxville, TN

Simmons, Darrell
Walters State Community College
Morristown, TN

Simpson, Mac
University of Tennessee, Knoxville
Knoxville, TN

Stone, Donald
Chattanooga State Community College
Chattanooga, TN

Sueing, Charles
Shelby State Community College
Memphis, TN

Sister Henry Suso
Aquinas Junior College
Nashville, TN

Thompson, E. L.
Walters State Community College
Morristown, TN

Tippens, Paul
Chattanooga State Community College
Chattanooga, TN

Underwood, Harold
Roane State Community College
South Harriman, TN

Warren, Jessie
Motlow State Community College
Tullahoma, TN

Walden, George
David Lipscomb College
Nashville, TN

Wiegers, George
University of Tennessee, Knoxville
Knoxville, TN

Walker, Martha
University of Tennessee, Knoxville
Knoxville, TN

Welch, Walter
Walters State Community College
Morristown, TN

Whitaker, Samuel
University of Tennessee, Knoxville
Knoxville, TN

White, James
University of Tennessee, Knoxville
Knoxville, TN

Whitehead, Charles O.
State Technical Institute
Memphis, TN

Wishart, Paul
University of Tennessee, Knoxville
Knoxville, TN

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